The JOURNAL of GEOGRAPHY

UNIVERSITY OF MICHIGAN
MAR 12 1953
PERIODICAL READING ROOM

VOLUME LII MARCH, 1953 NUMBER 3

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Published by A. J. NYSTROM & CO., for THE NATIONAL COUNCIL OF GEOGRAPHY TEACHERS
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AND THE
MEDITERRANEAN

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Mr. Vouras is now working toward his doctorate degree in the department of geography, Ohio State University. After taking his master's degree at Clark University, he taught at the Massanutten Academy at Woodstock, Virginia. His two most recent articles published in the JOURNAL are "Location of Schools: A Problem in Education Geography" published in the March, 1952 issue and "The Geographer's Role in Educational Land Use" published in the October, 1951 issue.

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Dr. Scarfe is Dean of the Faculty of Education, University of Manitoba, and he has written numerous articles in the field of Geography in Education. His most recent article published in the JOURNAL entitled "The Type of Geography Taught in the Schools of England" appeared in the September, 1949 issue. As indicated in another article in this issue he has just recently been appointed chairman of the International Geographic Union Commission on the Teaching of Geography.

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Mr. Chestang took both his bachelor's and his master's degree at Florida State College and while there taught as a graduate fellow. He is now with the Military Intelligence Research Army Maps Service, Washington, D.C. He is particularly interested in Geographic Education.

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Contents of the JOURNAL are indexed regularly in the *Educational Index to Periodicals.*
Authors alone are responsible for opinions and statements in the JOURNAL.

PRINTED IN THE U.S.A.

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The subscription price is **$4.00 a year**, payable in advance. The price of single copies is 50 cents. Postage prepaid on subscriptions from the United States, Canada, Canal Zone, Republic of Panama, Puerto Rico, Cuba, Virgin Islands of the United States, Dominican Republic, Philippines, Guam, Samoan Islands, Hawaii, Mexico, Costa Rica, Guatemala, Nicaragua, Republic of Honduras, Salvador, Argentina, Bolivia, Brazil, Colombia, Ecuador, Paraguay, Peru, Uruguay, Spain and Spanish Colonies. All other countries in the Postal Union add for postage 27¢ on annual subscriptions (total $4.27), on single copies 3¢ (total 53¢). All subscriptions are payable in United States Dollars.

The JOURNAL is the official organ of the National Council of Geography Teachers and is sent to all members. The annual dues, $4.00, are payable to the JOURNAL OF GEOGRAPHY. Extra postage rates for copies sent to foreign countries should be added to the membership dues. Make all remittances payable to the JOURNAL OF GEOGRAPHY, in postal or express money orders or bank drafts.

Send manuscript and books for notice or review to the Editor.
Send orders for back numbers to JOURNAL OF GEOGRAPHY.

Published monthly except June, July and August

PUBLICATION OFFICES: 450-454 AHNAIP STREET, MENASHA, WISCONSIN

Business Correspondence, Membership Dues, and Subscriptions may be sent to Publication office or to

A. J. NYSTROM AND COMPANY
PUBLISHERS, JOURNAL OF GEOGRAPHY
3333 ELSTON AVENUE, CHICAGO 18

Entered as second-class matter January 15, 1919 at the post office of Menasha, Wisconsin under the Act of March 3, 1879.

JOURNAL OF GEOGRAPHY PRIZES TO AUTHORS

Annually two prizes, of $25.00 each, are awarded for outstanding articles published in the JOURNAL in the previous five years. The prizes collectively cover most aspects of geography and geographic education. They honor the author and a person who contributed notably to the success of the JOURNAL. The prize awards are named in honor of the following: Richard E. Dodge, Ray H. Whitbeck, George J. Miller, J. Paul Goode, Almon E. Parkins, Ellsworth Huntington, Isaiah Bowman, and Cora P. Sletten.

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The JOURNAL *of* GEOGRAPHY

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VOLUME LII MARCH, 1953 NUMBER 3

GREECE'S MEANS OF LIVELIHOOD

PAUL P. VOURAS
Ohio State University, Columbus

The political and strategical significance of Greece has been of vital interest to the people of the United States since the end of the World War II hostilities. The span of the existence of Greece and the strength that it has so constantly exhibited arouse our curiosity and invite us to examine its means of livelihood.

LOCATION

Greece is a Mediterranean country occupying the southernmost portion of the Balkan peninsula. Situated between the peninsulas of Asia Minor and Italy, this small country literally constitutes a bridge between them. Greece's seas, the Ionian and the Aegean, extend to the approaches of two major seas: the Adriatic Sea and the Black Sea, along whose coasts are found the harbors which serve important commercial hinterlands. Not far distant are Egypt and the Suez Canal leading to other countries in Africa and Asia. Greece is on the crossroads of the communication lines to important countries and important regions.

AGRICULTURE

Agriculture, the Greek's most important occupation, employs the majority of the population. It not only provides food at home, but constitutes the basis of Greece's export trade, and is the source of the greater part of the national revenue. The country has a variety of climatic regions and soils which permit cultivation of a large variety of products such as tobacco, sesame, cotton, grapes, wheat, pulse and raisins. Greece is noted for a variety of agricultural products, but production is insufficient for a national consumption. Many agricultural products are imported which could be produced. They produce approximately half of the wheat they

need and import the other half. They also import pulse, potatoes and various vegetables.

The entire arable area of Greece under cultivation is estimated at about 7,000,000 acres. Five million acres are devoted to cereals, tobacco, cotton, sesame and vineyards. One million acres are in olive trees; 100,000 acres are planted with various other trees; and 900,000 acres are devoted to 'agrapnafses,' which are farms cultivated only every second year.

We must not forget that following the end of the World War II everything lay waste. Everywhere there were burnt houses, devastated cities, desolate villages and dead livestock. Trees were uprooted. Not even the olive tree and the vineyards escaped destruction from the enemy fire and steel. Starving was common. The richest lands of the nation, namely the coast of Achaia, the valley of Eurotas, the fertile plains of Thesally and Macedonia, were barren.

The future progress of the country and the improvement of its standard of living depend upon the improvement and the expansion of agricultural production. This can be accomplished in two ways: 1. by increasing the amount of arable land by draining the swamps; 2. by increasing the productivity of the present and potential arable land by employing modern agricultural implements and farming techniques. The production of edible fruits can be increased by ingrafting the wild trees especially wild olive trees.

FIG. 1. The cultivation of wheat and other grains is predominant. It covers 74 per cent of the arable land. The cultivation of tobacco and cotton is extremely important. They occupy a very small area of land, about three per cent of the arable land, but their yield is remarkable. Tobacco is an important export item.

In the last four years thru the financial and scientific aid given by the Truman Doctrine and the Marshall Plan the rehabilitation of the

farmer-refugees and the widespread application of the previously stated measures have caused notable progress in agriculture. For example, areas which were formerly used as pasture lands are now being cultivated.

FOODSTUFFS

Wheat. Of the nearly 5,000,000 acres being cultivated in Greece, about 1,540,000 are apportioned for the cultivation of wheat, with an annual production of about 450,000 tons of grain. This production is only half of the quantity required. The other half is imported, particularly from Canada and the United States. Draining of the swamps and more methodic cultivation will greatly increase wheat production. Below is a table showing the acreage devoted to wheat cultivation in different sections. Also see Fig. 1.

ACREAGE OF WHEAT CULTIVATION IN GREECE

Section	Acres
Macedonia	405,000
Thrace	115,000
Thesally	280,000
Epiros	37,000
Central Greece	275,000
Peloponnesus	275,000
Ionian Islands	30,000
Aegean Sea Islands	112,000
	1,540,000

Olives. One of the most important agricultural products of Greece is the olive. The olive groves cover about 1,000,000 acres, producing an average of 110,000 tons of oil, and 33,000 tons of edible olives annually.

The tree likes littoral climates that are not too cold in the winter. It flourishes along all Greek coasts except in Macedonia and Thrace where it is limited to a very restricted area. (Fig. 2). It prefers the not too fertile red soil (*kokkinohómata*) found among the limestones and does not prosper in exceedingly dry (sandy) or in very damp (swampy) soil. Extensive olive groves are found in Attica, Amfissa, the Peloponnesian sea coast and in all the islands. In Kerkyra (Corfu), Akynthos, Lesbos and Crete, the olive groves form extensive forests. Famous are the edible olives of Kalamata, Patras and Volos. Fine olive oils are produced in those places where new olive mills have been built and are scientifically operated.

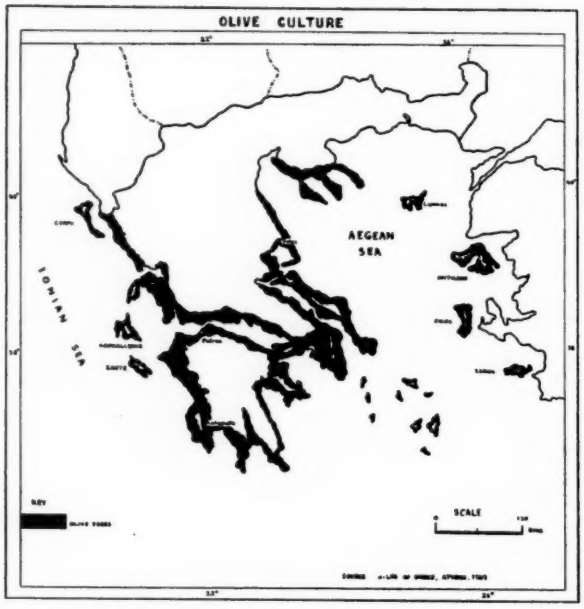

FIG. 2. The olive tree is the privileged tree of southern Greece. The present number of olive trees in the country is estimated at 60 million, producing an annual average of 110,000 tons of olive oil and 33,000 tons of edible olives.

FIG. 3. Vineyards are cultivated for three main purposes: for the production of currants, wine and edible grapes.

After Italy and Spain, Greece is the third largest olive-producing country in the world.

Vines. Grape-vines and currant bushes occupy over 541,000 acres. The currant bushes are mainly grown in Peloponnesus and along the sea coasts of the Corinthian Gulf and of the Ionian Sea. The currant, the black Corinthian raisin, is an exclusive Greek product to which raisins of California and Australia are inferior. Greece cultivates about 250,000 acres of currant bushes (Fig. 3).

The grape-vine requires neither as fertile a soil nor is it as particular in the selection of the climate as the currant bush. Of course, it likes the mild winters, the rainy but sunbright spring, and the hot summer for its fruit to ripen. Nevertheless, it can endure the cold. For that reason it is found in all areas of Greece, at the sea-

shores and inland as well as on both the low and the high plains. Famed are the wines of Samos, of Lefkas, of Achaia and others. In Athens and Piraeus, preference is given to the light Attica wines infused with a resin aroma and known as 'Retsina' wines. The edible grapes and raisins, mainly the seedless ones, are one of the most popular fruits.

Tobacco. Tobacco is the most important industrial crop in Greece. Annually, Greece cultivates about 162,000 acres and produces tobacco worth 3,570,000 drachmas![1] Tobacco is cultivated thruout Greece, but the best and most expensive kind is produced in Eastern Macedonia and Thrace, and is known as 'Xanthe' tobacco. Agrinion, too, is a big tobacco production center. Refer to Fig. 1 for the areal extent of the tobacco cultivation.

The tobacco lands are well kept and well fertilized. The seed is sown in March and transplanted in May or June. The lower, less valuable leaves are gathered in June and the harvesting lasts into September, when the upper and best leaves are cut.

Only a small fraction of the tobacco production is consumed in Greece; the greater part is exported to America, Egypt and elsewhere. The value of the overseas export varies greatly from time to time because of political and military troubles.

Cotton. Its cultivation increases amazingly from year to year and it flourishes in many areas in Greece from the Ebros plain and Komotini to the low valleys of Peloponnesus (Fig. 1). But, because the quantity produced is not sufficient for the domestic demand, cotton is imported from abroad.

Forests. In the very remote past Greece was covered almost entirely with forests, but as the population and its need for food increased the country was deforested. The forests vanished from the low and fertile areas and were restricted to the mountainous and barren areas. Unfortunately this denuding work continues to the present day and many big and beautiful forests are set on fire in order to make way for pastures. Many mountainous and rocky areas were also burned over and have been left hopelessly beyond reforestation, and the soil has been washed away by the rains until only bare rocks remain.

Today, the Greek forests cover an area of approximately 18 million acres. The largest and thickest forests are located in Rhodope and in Katerini. In other areas of the mainland, of Pelo-

[1] Pre-War value. The pre-war exchange value was 150 drachmas to the dollar. At present it is 15,000 drachmas to the dollar.

ponnesus and of the islands, the forests are fewer and thinner.

The forest found in lowland or near the sea coast are formed of 'Chalepan' pine trees, oak trees and low evergreens (laurel arbuteberry, myrtle and wild olive trees). In the mountains far from the sea, forests formed of fir trees, beech trees, chestnut trees and white pine trees are found. The profitable use of the Greek forests is not easy because there are no means of transportation in the impassable mountainous areas. Profitable use is possible only where the current of the rivers may be employed for the transportation of timber for building purposes. Notable forest products are the resin of the 'Chalepan' pine-trees and the acorn, which is being collected for the tannery industry.

Stock-Breeding. Because the dry climate quickly dries out the grass stock-breeding is unimportant. The principal animals are goats and sheep tended by nomadic shepherds known in the central mountain range from the Albanian border to Peloponnesus as *Sarakatsanaei,* and as *Karagounides* in Thesally. These shepherds lead their flocks to pastures on the plains in the autumn and into the mountains in the spring. However, this nomadic flock-breeding, especially of sheep, is steadily diminishing, for many of the choice plain pastures were made accessible to cultivation subsequent to the expropriation of the vast estates and the settlement of the refugees. Because Greece's diminishing stock-breeding is insufficient, Greece imports great quantities of meat, especially beef from the United States.

FISHING

Fishing contributes a significant percentage to Greece's organic foodstuffs. The annual catch ranges from 12-14 milion okas—about 35 million pounds.

Even tho Greece's coast is extensive, the Greek waters are too deep within a short distance of shore to permit an extensive fishing industry to thrive. Large quantities of fish are caught only in the shallow water of the Gulf of Evvoia. Fish migrating to the Black Sea where they lay their eggs are caught at Methana, in the Gulf of Pagasitikos, and at a few other shore points. Most famous are fish from the Gulf of Saronikos.

Fresh water fishing is carried on in the lakes. Bolsters, striped-bass and porgies are the most important of these.

INDUSTRY

Modern Greek industry, begun 20 or 30 years ago, is limited by lack of raw materials. She imports great quantities of finished industrial products. She imports coal tho there is some in Greece. The lignite of Oropes, of Kyme and of other districts, tho inferior to the English pit-coal, can be used profitably. Besides the lignite Greece possesses abundant water power, the so-called "white-coal." These hydraulic forces are estimated at about 300,000 horsepower. The horsepower of all Greek factories, taken together, totals 120,000. At present, very little hydraulic force is being used in the operation of factories at Edessa, Naousa and Verria.

The total number of the most important and the biggest factories in Greece is about 2,000. Half of these produce foodstuffs, such as flour, macaroni, olive oil, edible olives and wine and liquors. The last named are very important, for they operate with domestic raw materials and have large foreign exports. The olive-mills and the distilleries are located within the areas where the raw materials are produced.

Second in importance is the textile industry. This includes all factories which use cotton, wool and silk as their raw materials, and which produce thread or fabrics. The thread and weaving factories are located: 1. in the large centers—Athens, Piraeus, Thessaloniki, Patras, Volos—where they may be supplied easily with raw materials, power and workers; 2. at places where the raw material is produced—silk factories of Kalamata; 3. where power is cheap—Levadia, Naousa; and 4. where skilled workers reside—carpet-factories, at the large refugee projects.

Soap-factories using olive-kernel oil as their raw material are mostly located in olive producing districts—Athens, Piraeus, Kerkyra, etc. Tobacco factories are found in Athens, Piraeus, Cavalla and Volos. Large plants producing electric power for light and heat are found in about 200 Greek cities.

The greatest industrial centers of Greece are Piraeus and Athens, where there are about 800 industrial and handicraft plants.[2]

[2] The labor complement of the handicraft unit is anywhere from 3 to 15 workers. There are approximately 500 of these plants in the Athens-Piraeus industrial region. That of the industrial is anywhere from 50 to 100 workers, i.e. flourmills. There are a few with 500 or more workers, i.e. chemical, textile, and cigarette factories. According to information provided by the Greek Foreign Trade Administration, the total industrial force in Greece is 140,000.

These two cities owe their great industrial development to the fact that: 1. Piraeus is the most important communications center by sea and land. The concentration there of raw materials and coal from the interior and abroad is made easy. The distribution of its industrial products thruout the county is made equally easy by the daily connections of rail and steamer; and 2. in Athens-Piraeus and vicinity the concentration of population is large, providing the industry with men and women laborers and with a ready market. Other important industrial centers are Thessaloniki, Patras, Volos and Syros, respectively.

SEA COMMUNICATIONS

Greece, a peninsula deeply cut by waters and with a coast dotted with ports and harbors early turned to the sea to seek an easy, rapid and relatively safe means of communications. The nature of the land also served as a factor in promoting communications by sea. The small ranges which cut the country and divide it into numerous small and isolated plains have always been a big barrier—often insurmountable—to communication by land from one plain area to another. It is fortunate that many of the small plains within which the Greek people live and work have sea outlets, usually at the deepest recess of a calm gulf. And whatever the mountain barriers, replete with dangers, denied the populace, the calm Greek sea with her serene coastline provided. Even now, when engineering has successfully overcome many a natural barrier, has bridged ravines and rivers, and has bored thru mountain sides and built tunnels to make way for the railroad and the automobile, the Greek sea continues, as ever, to offer the cheapest means of transportation in Greece. Thus, in the recesses of the gulfs where the fertile valleys terminate, the ports began as small junctions between plain and sea and have gradually developed into their present character. Examples of these are Thessaloniki, Volos, Patras and Cavalla.

The following ports, listed in order of their importance, have the heaviest commercial and passenger traffic: Piraeus, Thessaloniki, Patros, Volos, Mytilene, Heraklion and Kerkyra. One hundred are in the Ionian Sea and nearly twice as many in the Aegean Sea. Some of them, altho they have natural aspects of a good port—space, depth, safety against winds—are being used very little because there is no developed interior to be served. Such (so to speak) dead ports are those of Souda in Crete and Moudros in Lemnos.

The Greek Merchant Marine provides Greece's sea communication and transportation. It consists of 600 steamers of an approximate tonnage of 1,550,000 and of 700 sailboats of 60,000 tonnage.

Greece has about 11,000 kilometers of hard-surfaced roads, as well as another 6,000 kilometers under construction. Over these roads and in the cities, about 30,000 vehicles are circulating.

In 1882 the construction of railroads in Greece began with three rail networks in Peloponnesus, in Attica and in Thesally. The gauge of Greek railroads is not uniform. The railroads in Macedonia, and the one running between Piraeus and Thessaloniki have a gauge of 1.44 meters, while the gauge of the others is 1 meter. There are some local railroads of smaller gauge. All of the Greek railroads are steam-operated except the Athens-Piraeus, which is electric.

COMMERCE

Greece does not produce all of the agricultural and industrial products needed for the subsistence of her population. On the other hand, Greece produces much more than it needs of certain goods—tobacco and raisins. Greece imports many industrial products from the United States—automobiles, electrical machinery, agricultural implements and chemical goods. The total value of all Greek products sold aboard is not equal to the value of the imported products, The imported goods cost almost twice as much as the exported ones. In other words, Greece pays out twice as much as she takes in. But where do the funds come from? Part of it is remitted by the immigrants from America, another part is gained by the Greek Merchant Marine Fleet, and still another part is given by the United States under the terms of the Truman Doctrine and the Marshall Plan. But Greece is always indebted. Greece, therefore, has no favorable commercial balance.

SUMMARY

From what has already been said, the improvement of the Greek economy calls for a concentrated effort on the part of the farmer and the government. However, there is one handicap which retards the economic development of the nation. This handicap is the small size of farms. According to the outlook of nature, rich is the peasant who has ample arable land, in which he will grow the cereals, the vegetables and the fruits, for the support of his family. Besides this land he also needs a small vineyard and a few olive trees. The vineyard will give him his grapes and tasty wine; the olive tree will

give him his edible olives and olive oil. Variety of agricultural products with unequal distribution constitutes the agricultural picture of Greece. The production of cereals is inadequate to meet he demand of the ever-growing population; therefore, much meat and barley have to be imported. The ideal weather conditions in the spring and summer invite overproduction in wine and olive oil. This makes clear to us why Greece is a struggling agricultural nation.

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DESIGNING THE CURRICULUM TO DEVELOP GEOGRAPHIC CONCEPTS

N. V. SCARFE
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Underlying the following suggestions for designing a school course in geography there are two very important assumptions. One is that all education is a biological process of growth, and in no sense a mechanical process of building. This truism applies not only to the growth of children's bodies and minds, but also to the growth and development of children's knowledge and understanding of a subject.

The second assumption is that subjects are not to be defined as bodies of facts, information, data or content, but as points of view, lines of interest, sequence of ideas or developing themes. A subject can, therefore, also be likened to a growing organism. Expertness in it results from a growing mastery of an increasingly complex association of ideas, points of view or concepts.

Concepts, like organisms, grow by increasing in size, quality, number and complexity. They do not grow simply by the accumulation of an heterogeneous array of facts, information or data. A child's mind, therefore, is not an empty vessel into which a teacher

pours factual information. A subject is not an encyclopaedic mass of related facts, and is defined, not by reference to any specified body of facts, but by reference to an expert way of looking at and handling bodies of facts which may be common to many subjects. Geography is a light in the mind, not a load on the memory.

Facts, information, data or content are the raw material of *any* subject and may be likened to the food of the mind.

If the food eaten is to be of any value to the human body, it must first be suitable, of high quality and properly balanced; secondly, it must be adequately masticated and digested; and thirdly, it must be transformed into energy-producing substances and become evident in movement.

Similarly, if the facts presented as food for the child's mind are to be of any value for educational growth, they must first be suitable to the age of the child in quality, quantity and kind. Secondly, they must be carefully analyzed and thought about by the child so that complete understanding is achieved. Thirdly, they must be transformed within the child's mind into ideas, concepts, interests or wisdom which can be readily used to develop worthwhile and desirable *attitudes, behaviour and action.*

Facts are, therefore, *neutral raw material* which do not belong rigidly to any subject. They do not help the growth of the mind until they have been thought about, related together and understood; they do not help the growth of a subject until they have been expertly selected, arranged and related from a *particular point of view.* Thus facts are essential means to desired ends. The ends are concepts, ideas, wisdom and civilized behaviour which are the characteristics of a mature and cultured personality.

To test educational progress in any school subject it is quite inadequate to inquire only into the total number of facts (digested or undigested) which a child can memorize. A test of educational progress must reveal the wealth of ideas and concepts, the quality of insight into the point of view of the subject studied, the enlightenment and wisdom acquired and the kind of attitudes and behaviour which are developing. Facts will, of course, be remembered, but only in proportion to the wealth of ideas which their study has engendered.

ASSUMPTIONS APPLIED TO GEOGRAPHY TEACHING

When these general assumptions are applied to the specific field of geography teaching, the first conclusion is that no curriculum

can be built simply on an organized accumulation of geographical facts. Any suggestions that a systematic study of human geography comes before physical, or that a full study of South America precedes that of North America, or that all the facts about the homeland must be studied in the elementary schools before proceeding to world study in the secondary school are therefore irrelevant, unless it can be shown that the special topics selected are designed to promote the growth of certain ideas, concepts and attitudes rather than the acquisition of an orderly array of facts for their own sake.

What, then, are these ideas, concepts and attitudes, the achievement of which are the educational objectives of geography and which will, therefore, form the criteria by which a program of geographic study may be planned? First let it be said that knowledge of geography grows from small immature ideas and concepts to larger and more complex ideas and eventually to a fully rounded philosophy of the subject. It is these embryo ideas and concepts that are particularly significant criteria in the lower school, but it is very difficult, if not impossible, for any one who has not achieved a fully rounded philosophy of the subject to pick out and select the embryonic ideas that eventually grow to geographic expertness. That is why those who try to teach geography, without having studied it to a high level, merely go thru meaningless motions with facts without producing anything that could be called scholarly, progressive or useful to children.

It is one of the fallacies of our age to suppose that people untrained in subject disciplines can, simply because they know something about children and a few tricks of teaching, then proceed to educate. A teacher should not teach any subject until he or she knows it well enough to have achieved an understanding of the spirit of its philosophy and know what ideas, concepts and attitudes should naturally arise of their own accord in children's minds as a result of good teaching of the subject.

PERIODS OF GROWTH

The period of growth from 6 to 9 years may be described as the age of observation; from 9 to 12 as the age of description; from 12 to 15 as the age of correlation; and from 15 to 18 as the age of generalization and application. The early years must, therefore, be largely, but not solely, concerned with the local environment of the child. The next stage of growth is concerned with descriptions

of recorded observations in other local environments of the world. Typical examples of small areas are chosen in order to demonstrate the significance of climate on man's food, clothing and shelter in the major climatic regions of the world.

Geography, however, is concerned with much more than climate. Each major region has a certain "personality" resulting from the interaction and interrelation of many factors. The age of correlation must therefore concern itself with regional differentiation, but the method will be analysis and not synthesis, and will tend to deal with increasingly more complex relationships as time goes on.[1]

Synthesis comes at the age of generalization when the world must be studied as a whole to develop the idea of unity, and also the idea that economic, political and social difficulties in any part of the world are really world problems. It might even be wise at this stage to consider the contribution that geography can make to economic, political and social problems separately.

AGES 6 TO 9

A very important series of elementary geographical concepts to which children of 6 to 9 may be introduced are ready and available. These basic concepts have been worked out in detail and then demonstrated in a series of books in what is called a geography readiness program.[2] They show that no material is as valuable to the teacher of reading and writing as the local geographical material which children feel they wish to talk and write about.[3] It is also quite possible that the learning of valuable geographical concepts is subsidiary at this age to the development of fundamental skills.

The everyday experiences and interests of young children, both out-of-doors and in the classroom, offer many opportunities for the teacher of this age level to introduce ideas which will eventually lead to geographic knowledge and understanding. Geography enters the curriculum with the first field trip because every environment is geographic.

The work in the year 6 to 7 so far as geography is concerned will be confined to observations in the locality of the school and to

[1] See E. P. Parker in 32nd Yearbook of the National Society for the Study of Education. 1933.

[2] These concepts are available in the form of a "Concept Chart . . . Geography Foundation Series" published by the Bobbs-Merrill Company to accompany the series of books (for grades 1-3) entitled *Through the Day, From Season to Season,* and *In Country and City.*

[3] Thomas Frank Barton, "The Sky's the Limit," *NEA Journal* (Journal of the National Education Association), January, 1953, Vol. 42, pp. 19-20.

the development of certain concepts about the behaviour of the sun and the weather, about plants and animals, about hills and valleys, rocks and minerals and about the things that people do. No specific program of study could, therefore, be laid down, for the whole thing will depend upon the resources and character of the school neighbourhood.

There is some doubt as to the age when it is wise to study more than the regional environment of the school. It is, however, quite certain that stories of children in other lands should not be introduced until after the age of 7, and it is also quite certain that there should be no definite study of the world as a geographical exercise until after the age of 9, but there is a need for reaching out beyond the immediate locality of the school before that age, and there is good reason to believe that children find a great deal of interest in stories of far-away countries if they are well told. It is believed that if the stories of children in other lands are filled with intimate little details of home life, and are not too generalized, methodical or geographical they will be as attractive and as useful as the school region.

The two years, 7 to 8 and 8 to 9, are grouped together partly because observations of the school locality and region are still carried on, and also because it is necessary to provide for a wide elasticity in a choice of topics. The idea of the two years is to study various kinds of work that men do in the homeland, particularly in the school area, and to extend this, wherever possible, to stories of work in other lands. The ultimate objective of these stories of how men work in the world is to show that men the world over have similar needs and similar ways of satisfying those needs. It is, therefore, possible to indicate a little more clearly than in the previous year what might form a useful, connected theme thruout the two years.

Let us take for instance a unit on farming. The life of an arable farmer on an actual farm near the school could be extended by a story of a particular farmer's life in Saskatchewan and another particular farmer's life in Bengal. The life of a cattle farmer or sheep farmer in the homeland could be followed by stories of a rancher in Nebraska and a gaucho in the Pampas.

Wherever possible the work should be started by a visit to some local place. The emphasis should be on how people work. The idea of a story is fundamental, but it is important to state that the story need not be romantic, thrilling, spellbinding, spectacular or fan-

tastic. The best type of story is that which describes in very simple language the ordinary everyday true story of life in a connected drama.

As a result of the development of the concepts the following attitudes should arise in children of 7 and 8 years:

1. Awareness of the need for members of a family, school and community to help one another.
2. Appreciation and respect for various types of occupation and worker.

AGES 9 TO 12

Children of the ages 9 to 12 are essentially explorers, filled with curiosity about the world around them, keen to observe and to understand natural phenomena and to gain skills useful for giving mastery over certain elements in their environment. They tend to be greatly concerned with their immediate surroundings and their curiosity is directed primarily to action and utility. Then, as reading power develops, children are keen to explore in imagination the distant world scenes beyond their immediate environment.

It is unwise to attempt systematic and detailed studies of countries and continents at this stage, since the young child cannot easily analyze, classify and synthesize phenomena distant from his own powers of direct observation. Studies of the work of men in *different environments,* of people's food, clothing and shelter, of means of transport and communication in *selected parts* of the world are suitable for treatment at this stage, and the more actively the children can investigate these areas for themselves the better.

By drawing simple comparisons between life in the home community and life in other lands, the child may learn something of the significance of varying geographical conditions, and may gain some appreciation of the interdependence of peoples round the world. Here, too, is a fine opportunity for developing in the child a real sense of respect for the achievements of other peoples in utilizing their environments.

In order to apply these ideas more precisely the following suggestions are made:

The year 9-10 might be devoted to a more systematic study of how men produce the things that we use in our daily life, and a description of the kind of places in which the production takes place. The aim of such work would be to show what a great variety of men and what a large amount of effort is required to provide us

with the things we need. We are, in fact, dependent on men all over the world for our welfare.

The year's course might therefore study such topics as the following: The areas that produce the wheat we need, the meat we need, the leather we need, the tea we need, the butter we need and so on. In each case there will be several parts of the world producing the same sort of product, and perhaps two or three parts of the world involved in processing the same product. Some people write this syllabus as the story of a loaf of bread, the story of a handkerchief, the story of a glass of water and so on, but instead of being merely the story of a process unrelated to any particular areas as in the earlier years far more is said about the kind of place where these operations take place.

At the age of 10-11 examples of community life in the major climatic regions of the world can be taken to show what a variety of food, clothing and shelter there exists on our earth. The object of such a study would be to show that climatic conditions have a marked influence on the way man satisfies his basic needs. The work can conveniently start with three type communities from the equatorial forests of the world, one from the Amazon Basin, one from the Congo and one from the East Indies. It is important to make sure that the studies include typical wild plants and animals as well as the simple aspects of human society.

Wherever possible more than one example should be given of community life in any large climatic region. It is necessary to demonstrate that within any one region there are similarities, as well as to show that each region differs from another in climate and in the life of its people.

By the age of 11 to 12 the time to make a more complete geographic study of some one area has arrived. This year could be devoted largely to the making of an extended regional survey, first of the school district and then of other small regions in the homeland. This work will have three main objectives. It will show that there are many more factors than climate which influence the life of people. Secondly, the children are introduced to the study and use of atlas maps. Thirdly, and most important, children are this year taught, so far as it is possible, what geography is and how they can use its various tools. It would be difficult here to give any detailed order in which regions might be taken, for one homeland will differ from another. There is, however, a tendency to deal with pairs of contrasting regions, so that the effects of position, struc-

ture, relief, climate, soil, minerals, etc., are thrown into sharper focus. There is also a tendency to deal with agricultural areas before industrial areas, but apart from these suggestions it would be unwise to restrict the teacher in his choice of program.

Among the attitudes that may develop as a result of the growing concepts between 9 and 12 years are:

1. Appreciation of the good qualities of the people of other communities, provinces and countries.
2. Appreciation of how different communities, regions and countries help one another.
3. Appreciation of the reasons for carrying products from one country to another.
4. Appreciation of the effect of varying climate on the food, clothing, shelter, characteristics and customs of people in different regions.

AGES 12 TO 15

From 12 to 15 is the stage for undertaking a more comprehensive regional geography of the world so that children get a basic understanding of the intricate pattern of the world. In the first of the three years they may consider, for instance, certain regions in the southern continents and emphasize particularly the physical factors which influence the settlement pattern. In the second year they may study some aspects of North America and Asia and stress the economic factors as well as the physical factors which help to explain the human use pattern of these continents. In the third year some countries of Europe provide a suitable occasion for discussing social, historical and political influences in addition to the physical and economic. Slowly, therefore, the pupils are asked to consider more and more complex relationships. Finally they will have surveyed most of the world's regions and will have come to the conclusion that ordinary people the world over are likeable, and that there are no ready-made or simple rules for solving human problems.

No generalized study of continents and oceans should be attempted at this stage. The continents or countries should be divided into major regions and typical small sample communities should be studied in detail before any generalized picture of a region is attempted. This same principle applies to the study of the world as a whole.

Before 15 years, world problems are not a suitable study as

such, but some problems may be introduced incidentally or form a motivating idea for a lesson.

The number of topics chosen for study in any continent should be quite small because it is important to study each topic thoroly and to allow time for creative expression work. Whenever a large area is mentioned it is not intended to imply that a generalized study of the whole area should be made; instead it is hoped that small typical samples only will be considered. In most cases a problem should be posed. This is deliberately done in order to suggest that there is no intention of merely "doing" the geography of any area. Instead a theme or aim is chosen and only those facts relevant to the theme or developing concept are considered.

Not only should individual units be developed around little themes or problems, but a theme or major concept should also link separate sections of the main program of studies; in fact a philosophy of geography should unite the units into a coherent developing whole. The method by which children study these problems should not be by generalized discussion, but by detailed study of sample areas which typify the various aspects of the problem posed.

The program of studies should be woven together into a continuous developing story which illustrates how geography contributes towards the solution of social problems.

The following are examples of some problems which suggest the way in which regional geography may be envisaged:

Is the White Australia policy justifiable?

Why are the Amazon Lowlands of little value?

Is the Congo Basin likely to develop faster than the Amazon Lowlands?

Why is North China a land of toil and tragedy?

Why is the surrounding sea more important than the land in Newfoundland?

How do the Swiss overcome and utilize their natural difficulties?

The topics are selected not so much for their own sake as for the possibilities they present for developing concepts.

Certain attitudes should naturally develop, too, in the years 12 to 15, such as the following:

1. Realization of the interdependence of the different regions or provinces in the country.
2. Realization of the fact that while there are certain differences in physical features, location, mode of life, customs, etc. be-

tween nations, there are at the same time fundamental similarities which may serve as bases for mutual understanding.

AGES 15 TO 18

The three years 15 to 18 should be devoted to world geography. From 15 to 16 the economic geography of the world with particular reference to the homeland should be studied so as to bring out the essential interdependence of all countries. The year 16-17 should be devoted to the human and political problems of the world in order to bring out the use and value of geography in citizenship. The year 17-18 should be devoted to physical geography and problems of conservation to bring out the value of geography in helping men use their world better.

A study of general world geography is necessary at this age in order to prepare for the study of the more difficult, more abstract and more complex social problems.

It is also necessary to resume the study of the home country with a world perspective. "The home country is really known only in so far as the world is known, otherwise there is nothing with which to compare it, and in the same way, the world is known only in so far as the home country is known, otherwise there is nothing with which to measure it." It is necessary to study countries not in isolation but in groups of states; naturally, attention will be directed first to those nearest to the home country in culture; these will be countries grouped by ties of civilization (Latin America), and by colonial ties (France and her colonies).

It is necessary to study the great problems of the world, for example, agriculture, soil erosion and soil conservation. Several of these will lead to the recognition of the benevolent activities of the United Nations and of their specialized agencies.

It is also necessary to study certain geographical complexes, for example, the great economic powers, agricultural countries, new countries, industrial countries, countries with a balanced economy where at the same time and on a large scale, industry and agriculture are practiced, and over-populated countries. For older pupils, this is the most enlightening and satisfying way of getting to know the world; it is also the most educative from the viewpoint of world understanding.

The study of such complexes allows comparisons which extend beyond frontiers, political divisions and local or party interests; it

reveals the similarity of life and activity among peoples, often very different and far from one another. The human aspect (standard of life, modes of living) and the work aspect (agriculture and industry) lead to general views from which the education of adolescents derives great advantage.

The following topics taken from an established course in the United States of America illustrate the kind of problems involved:

1. The wise use and development of the world's resources, both natural and human.
2. The wise use and development of the world's systems of communication and transportation.
3. The factors, geographic, political, economic and social, which encourage a United Nations World rather than a world of many isolated units or a world with two camps.
4. The past, present and future role of our homeland in world affairs.
5. The development of ways and means of assisting underdeveloped areas.
6. The development and wise use of atomic energy.
7. The way of life in the homeland as contrasted with that of other nations.

From all these studies should develop a sense of responsibility and an increased interest in the solution of world problems.

It would be well now to summarize the general argument of this paper by stating quite categorically that no curriculum of growing geographical concepts envisages that all the geography of all the world will be studied systematically. Nothing could be further from the present argument than a curriculum in which every region follows the next like a series of sausages of heterogeneous and doubtful content linked only by tenuous skin. Geography in school is thought of as a continuous developing story with interesting related chapters. Each chapter and the story as a whole have proper conclusions. The method of teaching, however, must be such that conclusions and morals are drawn *by the children themselves,* and that concepts arise and grow *naturally* in their minds. Finally it is asserted that methods of selecting ideas and methods of teaching geography are more fundamental than the selection of individual items of content when framing a geography curriculum.

SOME OBSERVATIONS ON INTRODUCTORY COLLEGE GEOGRAPHY IN THE UNITED STATES

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On December 18, 1950, *The New York Times* published the results of a survey of American colleges and universities concerning geography in the curriculum which led the writer to wonder if a causal relationship existed between ignorance of geographic principles on the part of most students and current approaches to the subject. The writer found that geography instructors thruout the world were concerned with this question; therefore, the following seems appropriate as a prelude to the study:

"It has been said that, in spite of the progress of geography in methods of research and dissemination, the efforts of geography instructors produce disappointing results, and that actually less is known of geography today than formerly. It is time to ask the reason for this and whether or not it indicates the failure of modern methods of teaching."[1]

In attempting to answer this question the writer sent questionnaires to 100 departments of geography inquiring into the nature of introductory course organizations and materials. Sixty-three questionnaires were returned and are summarized in the following three tables. Table 1 is concerned with course descriptions as of 1950, Table 2 summarizes textbook preferences for 1950-1951 and Table 3 summarizes 1940 course descriptions.

THE QUESTIONNAIRE

Below are three questions and three statements describing geography courses. Please check the statement which best describes the character of your introductory course today and in 1940. If you feel that no one of these statements describes your course adequately or at all and will supply additional information or describe your course in the blank space (4) below I will appreciate it very much.

Name of textbook used ————————.

Of what college, school, or division of your institution is geography a part? ———— ————————.

Statement 1. ——— 2. ——— 3. ——— below most nearly describes the present character of our introductory or first course.

Statement 1. ——— 2. ——— 3. ——— below most nearly describes the character of our introductory or first course of 1940.

1. A study of man's relation to the natural environment often organized by human use

[1] *Some Suggestions on the Teaching of Geography* (Paris: United Nations Cultural and Scientific Organization, 1950), 7.

or composite regions which is designed to develop in the students the ability to use information in understanding and explaining the relations between man and his environment. An attempt is made to evaluate the nature, quality, and problems of human adjustments to the natural environment of the various parts of the world.

2. A study of man's relation to the natural environment organized around natural regions and/or environmental factors of the world with a view toward developing in students the necessary tools of geographic interpretation and the understanding of the major physical features of the earth.

3. A study of man's relation to the natural environment centered around the distribution of economic activities over the face of the earth and the relation of these activities to the economic requirements of our age.

4. _____

Signature

TABLE 1

DESCRIPTIONS OF INTRODUCTORY COLLEGE GEOGRAPHY COURSES IN 1950

1. "A study of man's relation to the natural environment often organized by human use or composite regions which is designed to develop in students the ability to use information in understanding and explaining the relations between man and his natural environment. An attempt is made to evaluate the nature, quality, and problems of human adjustments to the natural environment of the various parts of the world."
   Number of institutions checking this statement 15
2. "A study of man's relation to the natural environment organized around natural regions and/or environmental factors of the world with a view toward developing in students the necessary tools of geographic interpretation and the understanding of the major physical features of the earth."
   Number of institutions checking this statement 19
3. "A study of man's relation to the natural environment centered around the distribution of economic activities over the face of the earth and the relation of these activities to the economic requirements of our age."
   Number of institutions checking this statement 2
4. A blank space for a description of the course given by the recipient of the questionnaire.
   Number of institutions from which a description was returned in this space 23
   Number of institutions describing their introductory course as a combination of statements 1 and 3 3
   Number of institutions describing their introductory course as a combination of statements 1 and 2 1
5. Course descriptions provided by recipients of questionnaires
   a. A study of the elements or tools of geography and the cultural facts about areas of the world.
      Number of people replying in a similar manner. 11
   b. A study of area differentiation over the earth's surface which is centered around the world distribution of population.
      Number of people replying in a similar manner 3
   c. A study of the physical and cultural differentiation of areas thruout the world.
      Number of people replying in a similar manner 2
   d. A description of the world physical environment.
      Number of people replying in a similar manner 2
   e. A survey of world economic and political geography and its current implications.
      Number of people replying in a similar manner 1
   f. A study of selected world regions with emphasis on the development and application of the principles of human location, occupance, and settlement.
      Number of people replying in a similar manner 1
6. Course descriptions omitted
   Number of people saying nothing concerning the nature of their introductory course 3

TABLE 2

TEXTBOOK PREFERENCES

Author and Title	Number of Institutions Using Book.[3]
Finch and Trewartha: *Elements of Geography*	16
White and Renner: *Human Geography*	15
James: *A Geography of Man*	8
Davis: *The Earth and Man*	4
Smith and Phillips: *Industrial and Commercial Geography*	3
Freeman and Raup: *Essentials of Geography*	3
Klimm, Starkey, Hall: *Introductory Economic Geography*	2
Bengston and Van Royen: *Fundamentals of Economic Geography*	2
Case and Bergsmark: *College Geography*	2
Huntington: *Principles of Human Geography*	1
Kendall, Glendinning and MacFadden: *Introduction to Geography*	1
Jones and Darkenwald: *Economic Geography*	1
Renner and Associates: *Global Geography*	1
Departments using no textbooks but syllabi and/or Goode's School Atlas	5

TABLE 3

1940 COURSE DESCRIPTIONS

1. "A study of man's relation to the natural environment often organized by human use or composite regions which is designed to develop in the student the ability to use information in understanding and explaining the relations between man and his environment. An attempt is made to evaluate the nature, quality, and problems of human adjustments to the natural environment of the various parts of the world."
   Number of institutions checking this statement 12
2. "A study of man's relation to the natural environment organized around natural regions and/or environmental factors of the world with a view toward developing in students the necessary tools of geographic interpretation and the understanding of the major physical features of the earth."
   Number of institutions checking this statement 14
3. "A study of man's relation to the natural environment centered around the distribution of economic activities over the face of the earth and the relation of these activities to the economic requirements of our age."
   Number of institutions checking this statement 4
4. "A description of the world physical environment."
   Number of institutions checking this statement 2
5. "A study of man's economic activities in various climatic regions of the world."
   Number of institutions checking this statement 1
6. "A study of the elements or tools of geography and the cultural facts about areas of the world."
   Number of institutions checking this statement 1
7. "A study of area differentiation over the earth's surface which is centered around the world distribution of population."
   Number of institutions checking this statement 1
8. "A study of the physical and cultural differentiation of areas thruout the world."
   Number of institutions checking this statement 1
9. "A travelogue course based on the observations and impressions of the instructor."
   Number of institutions checking this statement 1
10. Number of institutions where no introductory course in geography was offered in 1940 3

FINDINGS

Questionnaires and textbooks reveal that several different approaches are made to geography in introductory courses. Only

[3] If more than one book was used in a department each book was counted once.

three books analyzed by the writer and represented by Table 3 have the same type of organization, but organizations of all but one book are variations on two types: 1. elements of geography and 2. the distribution of economic activity over the face of the earth. Of three course descriptions on the questionnaires, 15 institutions checked anthropocentric geography, 19 checked earth centered geography that deals also with people and two checked economic geography. Three departments give economic geography as a first course to special students, e.g., students of business administration. Some departments described courses that are centered around detailed studies of sample regions of the world for the purpose of helping students understand the development of principles or elements of geography, such as the principles of location. Some descriptions were, "a study of the significant differences from place to place over the face of the earth," and there were some descriptions that imply courses designed to equip students with kitbags of tools or techniques for observing the face of the earth.

A fuller understanding of introductory college geography can be had thru considerations of old books, as several books now in use were published before 1930 and the organizations of some old books are clearly reflected in currently used ones.

The Elements of Geography by Salisbury, Barrows and Tower[3] seems to be the father of "elements of geography" books.

In 1925, Volume I of *An Introduction to Economic Geography*[4] was published. The organization of this book is centered around elements of the natural environment. In the textual materials elements of physical geography are studied in relation to man's economic activities. The writer is told that Jones and Whittlesey planned Volume II that would have made use of elements of geography in detailed studies of human activities.

Industrial and Commercial Geography by J. Russell Smith[5] approaches geography thru man's economic activities, considering the natural environment as a basis of economic activities.

In 1924 Whitbeck and Finch's *Economic Geography*[6] appeared.

[3] Rollin D. Salisbury, Harlan H. Barrows and Walter S. Tower, *The Elements of Geography* (New York: Henry Holt and Company, 1913).

[4] Wellington D. Jones and Derwent S. Whittlesey, *An Introduction to Economic Geography* (Chicago: University of Chicago Press, 1925), I.

[5] J. Russell Smith, *Industrial and Commercial Geography* (New York: Henry Holt and Company, 1913).

[6] Ray Hughes Whitbeck and Vernor C. Finch, *Economic Geography* (New York: McGraw-Hill Book Company, 1924).

This book is organized by political divisions and emphasizes economic activities particularly in the United States and Canada. The book is primarily concerned with man and his efforts to make a living and brings in the natural environment when human activities are related to it.

These books reveal that two things were happening simultaneously. Some geographers were emphasizing elements of the natural environment. Others were emphasizing people and their economic activities with minor emphasis on the natural environment.

Data for 1950 courses, 1940 courses and considerations of old books prove that thru the years there has been no one direction of development in introductory college geography. Old books mentioned above are concerned with principles or elements of geography and economic geography. All currently used books analyzed in this study are either one of these types, combinations of both of them or slight variations on one or both.

Questionnaire responses and textbooks reveal much about introductory college geography. By considering concepts of the subject held by instructors in the early 1930's it is possible to discern change or lack of it in concepts of geography.

In 1934 A. E. Parkins published five groups of concepts of geography.[7] Within the first four groups there are similar concepts. The fifth group contains a very general concept that allows for much latitude. The questionnaire used herein contains descriptions for three types of courses. Respondents to questionnaires provide six types of course descriptions. For every course description returned to the writer, Parkins' article contains a comparable concept of geography.

It is well known by professional geographers that more geography is offered in colleges and universities than at the time when Parkins obtained his concepts; however, all geographic offerings of which I have knowledge are the same as, or slight variations on, kinds of geography described by Parkins.

All textbooks listed in Table 2 are concerned in varying degrees with the elements or principles of geography. Educationally this seems to mean that undergraduate students are expected to learn generalizations or conclusions already reached by writers thru regional studies of the world rather than being helped to arrive at generalizations or conclusions themselves. Other than economic

[7] A. E. Parkins, "The Geography of American Geographers," THE JOURNAL OF GEOGRAPHY, XXIII (1934), 221-230.

geography books which deal with a special branch of geography, Preston James' *A Geography of Man* and Ellsworth Huntington's *Principles of Human Geography* are the only books analyzed that are designed to induce geographic thinking to a degree sufficient to get students to discover or understand the arrival at principles or elements of geography thru regional study. The writer believes any basic premise that expects students to learn generalizations made by professionals from studies of the world is psychologically unsound. Why should students not study regions, draw conclusions and make generalizations, thus discovering principles or elements of geography for themselves? For testimony of the value of beginning by studying the world, the reader is referred to the foreword of Russell and Kniffen's *Culture Worlds.*[8] With a ten year experiment these men have demonstrated that it is educationally more effective to start students with world geography.

Does a causal relationship exist between ignorance of geographic principles on the part of most students and current approaches to geography? The writer believes this question must be answered affirmatively and that the currently accepted premise that students should begin by studying elements of geography is unsound. It is the writer's conviction that students should study regions, draw conclusions and make generalizations; thus they may derive valid principles or elements analytically thru their own experience.

WHITE COAL

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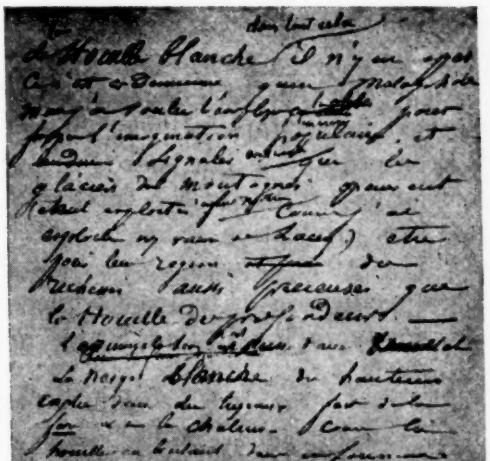
The accompanying photograph reproduces the page where, for the first time, the words *houille blanche,* white coal, were written. The expression appeared in a statement by Aristide Berges for the world exhibition of 1889 in Paris (see illustration). He tried to popularize his ideas about hydro-electric energy and to attract the attention of his government to the hydraulic riches of France.

Copies of his brief were placed at the disposal of the public visiting the part of the exhibition where a relief model of Lancey and vicinity and other exhibits were displayed by Berges, owner of

[8] Richard Joel Russell and Fred Bowerman Kniffen, *Culture Worlds* (New York: The Macmillan Company, 1951).

the hydro-electric plant in that town. The lines photographed are the beginning of the first draft of his statement and not the final text. The original manuscript is preserved at Lancey in the old home of the writer's family. Berges wrote, "White coal is evidently only a metaphor. But I wished to employ the word to strike the imagination and to point out vigorously that the glaciers of the mountains, exploited by motor power, can be, for their region and for the state, riches just as valuable as the coal in the crust of the earth."



Berges, born in 1833 and educated for a career in engineering, became a paper manufacturer who took pride in turning out a high product and especially in the technical development of the means to obtain it. He came into the Dauphine in 1867 to install hydraulic pressure defibrating machines used in the manufacture of wood pulp. He conceived the idea of establishing on the Combe stream at Lancey a waterfall thru a pipe of 200 meters, considered very high at that time, which would give a force of 1000 horsepower. The power plant, opened in 1869, was the first hydro-electric installation in the world. It furnished power for the paper mill, for a streetcar company in Grenoble and for electric light in Grenoble and other parts of the valley of the Gresivaudan or upper Isere River.

Berges' success in the development of hydro-electric power gave a great impetus to its further development in the principal valleys of the Alps. A southern belt of the production of hydraulic electrical power in Europe today, including the southern half of France, is identified with those mountains.

In recent years the Alps have become a very important source of hydro-electric power for manufacturing, railway transport and for lighting. As the water is derived from melting snow and ice, there is no fear of summer shortage, but a winter stoppage may

occur. Most of the great lakes of the subalpine region are used as sources of supply, as are many of the smaller ones; in most of the latter cases the level of the water is raised by dams. The water is drawn from the bottoms of the lakes in order to secure a constant "warm" supply in winter.

In 1946 all the hydro-electric power facilities in France were combined into a nationalized system, the government owning 55 per cent of the stock, and former private companies 45 per cent. During the year 1950-51 spent there, the writer noted great activity in that field. Many railway trains are hauled by electric engines. Large posters on bill boards in public places encourage people to subscribe for bonds for further development.

The production of electrical power in France in 1950 was 33,070,000,000 kilowatts of which 49 per cent was hydro-electric. The production of hydro-electric power by the Tennessee Valley Authority in the United States in fiscal 1950 was 17,514,000,000 kilowatts.

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RECENT MAPS OF INTEREST TO TEACHERS OF GEOGRAPHY: II

MARIE CLECKNER GOODMAN
Library of Congress

Since the first article in this series was published in the JOURNAL, January, 1952, a variety of new maps of special interest to teachers has appeared. Among these are special subject maps on diseases, agriculture, conservation, transportation, vacation and travel. Several representative sheets of recent maps suitable for teaching physical features are also reviewed here. Foreign maps are mentiond only if they are readily available to teachers.

MAPS MADE IN THE UNITED STATES

Early in 1952 the American Geographical Society of New York issued two world maps, namely, *Distribution of Helminthiases* and *Map of the World Distribution of Dengue and Yellow Fever*. These colored sheets are respectively plates four and five of its "Atlas

of Diseases." The three previous plates were on poliomyelitis, malaria and cholera.

A detailed explanation of the map on helminthiases appeared in *The Geographical Review,* January, 1952. The Briesemeister elliptical equal-area projection is used on this 25 × 38 inch sheet. The main map (1:50,000,000) showing "Worms Acquired thru Lack of Protection of Body from Contact with Excreta-Established Infestation" contains a small inset on the delta of the Nile. In four other large insets, the species of worms are grouped according to the mode of transmission to man; that is, by ingestion, by the bite of an insect or by penetration of the skin by larval forms. A résumé of the epidemiology appears in a marginal table on the sheet and an extensive bibliography is printed on the verso. An edition of this map in Spanish is distributed by the Lederle Laboratories, New York.

The map on dengue and yellow fever distributed with the April issue of the same review is described by Dr. Jacques M. May in these words:

> "We have shown on our map the regions of occurrence of dengue and yellow fever as they are known to exist today, the geographical distribution of the vectors of both diseases thruout the world, the geographical distribution of immunity to yellow fever in man and animal as determined from immunity surveys, and the places of occurrence of yellow-fever cases, both urban (transmitted by Aëdes aegypti) and forest (non-Aëdes aegypti-transmitted). A small map showing the places where the disease has been reported in the past is included, as are also a short summary of the epidemiology and a résumé of the natural history."

A selected bibliography appears on the verso of the sheet. Actually five maps with individual subtitles are shown on the sheet under the collective title.

The National Geographic Society published *The World Map* in December, 1951, and *North America* in March, 1952. Both show principal roads, railroads and airports. Main political divisions are indicated by contrasting colors. Elevations and depths are given in feet.

The World Map measures 27 × 41 inches and is drawn on Van der Grinten's projection at 1:40,000,000 scale. Insets give the United Nations, the International Time Zones and north and south polar projections. An index containing 5,488 place names accompanies the map.

The Chamberlin trimetric projection (1:11,000,000) is used for the North American map which is 35 × 28 inches. A marginal table lists abbreviations and geographical equivalents in English and

native tongues. The Bering Sea and Aleutian Islands and the Diomede Islands appear as insets. The accompanying index gives 5,204 place names.

Another map, *Southwest Asia; India, Pakistan and Northeast Africa,* was distributed with the June, 1952, issue of the *National Geographic Magazine.* Features stressed on this colored map include principal railways, roads, airports, oil fields and pipe lines, canals, water holes, volcanic debris, areas below sea level and dry salt lakes. An inset entitled "The Moslem World" indicates the percentage of Moslems in the total population. Geographical equivalents and abbreviations are listed in the margin.

In December, 1951, Roy Wenzlick and Company published a colored facsimile (18 × 21 inches) of Johann Baptist Homann's map of North America bearing the impressive Latin title *Amplissimae regionis Mississippi seu Provinciae Ludovicianae à R.P. Ludovico Hennepin Francisc. Miss. in America Septentrionali, anno 1687 detectae nunc Gallorum Coloniis et actionum Negotiis toto Orbe celeberrimae.* The back of the map carries a descriptive text, "The Greatest Land Promotion in All History." The map was prepared as part of the publicity campaign in 1717 to promote the French Company of the West, also called the Mississippi Company. This map will interest students of history, geography and cartography.

Two vacation maps on adjoining areas recently copyrighted by Samuel A. King of DuBois, Pa., will interest sportsmen as well as young students.

Cornplanter's Kingdom: The Allegheny National Forest and Environs (1:190,000) is a colorful sheet 25 × 19 inches. It shows roads, trails, national and state forests, parks, dams, game lands, fire towers, stocked streams and ponds. Spot heights are given. Footprints of various game adorn the margin and a sketch of John Abeel, the Cornplanter, 1732-1836, "Last of the Great Seneca Chiefs" appears beneath the title.

God's Country: Pennsylvania's Last Frontier; showing places of historic interest, towns, roads, streams, mountains and other things enjoyed by the outdoorsman (1:225,000). The attractive outside border is composed of log brands. An inset shows a picture of "Shay Stemwinder operated between home camp and Winterbourne."

In 1951, Albert G. Ballert of Toledo copyrighted a map titled *The Major Ports of the Great Lakes, Tonnage and Principal Traffic in 1948* (1:1,800,000). The dimensions of this black and white

map are 30 × 22 inches. Pairs of tonnage symbols indicate receipts and shipments of millions of short tons of coal, cement, grain, iron ore, iron and steel, petroleum and products, sand and gravel, stone and car ferries.

A Shaded Relief Map of California drawn by Hal Shelton and copyrighted in 1951 by the Jeppesen Company of Denver has been published by the California Division of Mines. The sheet was "prepared by a special technique of shading a topographic map, scale 1:1,000,000, in color, and reducing it photographically to the scale 1:2,000,000." An inset map shows the natural provinces (major geologic units) of California. This is an attractive map for teaching relief.

In 1951 the General Drafting Company designed exclusively for George H. McFadden & Brother a colored *Map Showing Cotton Growing Regions of the United States and Mexico* (about 1:4,700,000.) Measuring 26 × 38 inches, the map shows four major belts, offices and agencies of the company, spot markets (USDA) and delivery points for futures contracts. An inset, "The Cotton Belt in Relation to the United States," outlines the limits of the growing areas and gives date-lines of earliest autumn crop-killing frost. This map will interest classes in economic geography.

Of interest to younger students is the *Pony Express Route, April 3, 1860-October 24, 1861* by W. H. Jackson. "This pictographic map is made available thru the generous cooperation of the Union Pacific, the first transcontinental railroad, whose lines closely parallel most of the historic Pony Express Route." The following quotation of Howard R. Driggs, taken from the face of the map, describes the route in detail:

> "Over this historic route daring young Americans on fleet horses sped night and day while other courageous men kept and supplied the stations along the far-flung, dangerous line. This pioneer fast mail service, maintained despite serious loss to its patriotic promotors, made a notable contribution to our national welfare. The Pony Express, following the direct northern route, brought our Far West much closer to our East, thereby helping to hold our frontier territory with its treasures of gold in our Union. It blazed the way for the overland stage to California, hastened the building of the first transcontinental railroad and telegraph and added one of the most stirring chapters to the history of America's making."

Davey Jones' Locker (Cape Cod) is a picturesque map which children will love. The author of this colored map is Everett R. Graichen, Treasurer Trow, Providence, R.I. The map measures 17 × 21 inches and is drawn on the scale of 1:180,000. "Popular imagination regards Cape Cod as one of the most likely spots for

pirate gold." The names of 435 of the 3,500 cargo ships wrecked in the shallow waters surrounding the Cape are recorded on the map together with the year of their sinking. Names of famous pirates decorate the border.

Two recent maps by the eminent cartographer, Erwin Raisz, merit the attention of students of physical geography. Both were prepared for the Environmental Protection Section of the Quartermaster Corps. *Landforms of the Near East* (1:3,000,000) measures 22 × 30 inches and "is based primarily on trimetrogon airplane photographs and actual air reconnaissance. Official United States, British, Turkish and Egyptian topographic maps were consulted as well as the lithographic maps of Dubertret of Syria and Lebanon." Dr. Raisz shows and defines the following forms: wadiyan, harrat, hajara, shallow, karst, hummocky limestone, mountains of bedded rocks, massive mountains and fans. Insets show landform regions, political divisions and "reliability."

The black and white *Landforms of Arabia* (1:3,000,000) is also based on air photographs. The legend states that the American-Arabian Oil Company helped generously with maps and advice. "Reports of explorers such as Philby, Musil, B. Thomas, Little, Lees, Twitchell, Thesiger and many others were consulted." The margin contains a block diagram, a glossary, a list of abbreviations used and a legend defining the various landforms. Insets show landform regions (outline), political divisions and reliability (good and poor).

Another map prepared for the Environmental Protection Section, Office of the Quartermaster General, is titled *East Central Asia.* This physical map by Harry E. Hoy is similar to the landform cartography by Raisz. Lithographed in color by the Army Map Service, June, 1951, the sheet is 32 × 30 inches

In 1951 the Geographical Press, Columbia University, issued a *Physiographic Diagram of Australia* drawn by A. K. Lobeck to accompany text description and geological sections which were prepared by Joseph Gentilli and R. W. Fairbridge of the University of Western Australia. The margin lists 41 physiographic regions under three main headings: I. West Australian Shield, II. East Australian Basins, III. East Australian Cordillera. Tasmania appears in an inset. The diagram measures 19 × 24 inches. Explanatory text is on the verso and on an accompanying sheet. This is a very scholarly work. "To American students the detailed descrip-

tion presented here will seem formidable, largely because of the many unfamiliar and unpronounceable names."

During the past few months the Soil Conservation Service issued several maps of interest to classes in the geography of agriculture. A few samples are described below.

1. *Progress in Soil Conservation Work Completed in Soil Conservation Districts* (in the United States) January, 1952. Colored. 13 × 21 inches. 1:9,000,000. Under the heading "Districts Organized to July 1, 1951" are shown by contrasting colors:
   a. New districts and those up to 10 per cent completed;
   b. Districts 10 to 25 percent completed;
   c. Districts 25 to 50 per cent completed; and
   d. Districts 50 per cent or more completed.

   The territories appear as insets. "Conservation work completed to July 1, 1951, equals 21.4 per cent of all land in farms for nation."
2. *Triadelphia Reservoir Watershed Drainage Map; Frederick, Howard and Montgomery Counties, Md.* October, 1951. 18 × 22 inches. 1:50,000. A blue overprint on an aerial mosaic shows drainage.
3. *Minor Tributary of the Triadelphia Reservoir Watershed; Frederick, Howard and Montgomery Counties, Md.* February, 1952. Colored overprints on aerial mosaics. Each map 22 × 17 inches. 1:8,200.
   a. "Streambank and Highway Erosion and Areas Having Water Problems." Intensity of erosion is shown by contrasting colored lines at side of streams. Roadside erosion is indicated by symbols.
   b. "Land Capability and Present Land Use." Shows by contrasting colors three classes of land according to use capability at the time of mapping:
      1) Land unsuited or not well suited to cultivation which was cultivated.
      2) Land well suited to cultivation which was in pasture or woodland.
      3) Land fairly well suited to cultivation which was cultivated or idle.
   c. "Physical Land Conditions" shows by contrasting colors six classes of land according to use capability.

4. *Oregon, Generalized Classification of Land According to its Capability for Use.* November, 1951. 33 × 38 inches. 1:750,000. Distinguishes four classes of land suited for cultivation and four classes unsuited. Eleven drainage basins are indicated.

FOREIGN-MADE MAPS

Alberto M. De Agostini recently published in Novara a colored map titled *Patagonia Australe* (1:1,000,000; 23 × 32 inches). This Italian physical map very strikingly shows glaciers by plastic shading. Boundaries, classes of roads and water routes are also indicated.

The Port of London Authority issued in 1951 a very detailed chart, *Port of London, the River Thames from Teddington to the Nore, 1:85,000* and *Plan of the Docks, showing road access, rail connections, ships berths, warehouses, transit sheds, dock offices, etc., 1:15,000.* These two colored maps on a sheet 29 × 44 inches, are based on Ordnance Survey data.

Another foreign chart available in London is the *Map of the Norfolk Broads and Rivers* (England) by Edward Stanford, Ltd. It is colored, 35 × 30 inches and based on Ordnance Survey maps. An interesting transportation pattern including roads, railroads and waterways is presented on this sheet. Post and telegraph offices, marshes, parks, churches, inns, boat houses, drainage pumps and windmills are also shown. Early closing days and level crossings are indicated. The margin contains regulations for sailing.

Three similar sets of tourist maps show the unique canal and road patterns of the Netherlands. All are colorful and give general cultural information.

1. *Toeristenkaart* 1:100,000. Various sized sheets published between 1947 and 1949 by the Koninklijke Nederlandsche Toeristenbond A.N.W.B. cover the country.
2. The province maps which make up the *Kompas Toeristenkaart* published by Uitgave Kompas in the Hague 1950-51 are uniform in size (24 × 32 inches) but vary in scale from 1:50,000 to 1:165,000. Indexes with numerous place names are printed on the versos.
3. Ten Brink's *Nieuwe Province Kaarten* (1950-51) 21 × 33 inches, vary from 1:60,000 to 1:180,000. Each map has a marginal index.

In 1951 the Ministère des Travaux Publics des Transports, et du Tourisme published a series of maps designed to attract the

traveler to France. Included are maps of each province approximately 17 × 21 inches and varying from 1:400,000 to 1:800,000. The verso of each gives local scenes and descriptions. A pamphlet giving general information accompanies each map.

Another map in the group is titled *Sanctuaries and Pilgrimages* (18 × 21 inches; 1:3,400,000) shows Romanesque, Gothic and modern churches and shrines and indicates six different pilgrimage routes with variants.

Another, *French Chateaux: A Map* (24 × 24 inches; 1:1,400,000) shows four classes of chateaux: "medieval ruins and monuments, Renaissance buildings, XVIIth Century edifices and XVIIIth Century monuments." The verso contains an index, two views and two small maps "Chateaux in the Ile-de-France" and "Chateaux Along the Loire."

Map of French Seaside Resorts (*Coasts of France*) 12 × 12 inches on sheet 17 × 21 inches, locates vacation spots on the scale 1:7,000,000. A descriptive text with photographs was issued with the map. All these maps and large attractive photographs of French scenes are available from the French Tourist Office in New York City.

Girard, Barrère et Thomas, a Parisian map-making firm, recently published two maps which might be considered companions to the official French tourist maps:

Carte Gastronomique et Vinicole de la France (1:1,330,000; 32 × 32 inches) by A. Bourguignon, "ex-chef de cuisine, directeur de l'Ecu de France" will tempt the gourmet. In addition to the well-known vineyards the homes of such famous dishes as lapin sauté and bouillabaisse are located.

Marques Symboliques des Départments . . . (ca. 1:3,000,000; 21 × 23 inches) by Robert Louis is an attractive pictorial map showing the various départements, each with its heraldic shield. Students of art and history will appreciate this map.

Canada; Principal Mining Areas and Producing Mines (1:7,603,200) is the title of a 1952 map published by the Canadian Department of Mines and Technical Surveys, Mines Branch, and the Geological Survey of Canada. Contrasting colors show the following geographical regions: Canadian Shield; Greenstone areas within the Canadian Shield; Interior plains, St. Lawrence, Hudson Bay and Arctic Lowlands; Appalachian region; Cordilleran region; Intrusive rocks within the Cordilleran region. Symbols show metallic and non-metallic mineral properties, oil and gas fields and

coal properties. Mining camps are named and oil pipe lines are traced. Seven insets locate specific minerals. Graphs indicate values of mineral production (1939-1950). An extensive marginal Index to Principal Productive Mines, 1950, names the operating companies.

The maps reviewed in this article are readily available from the publishers at reasonable prices. Sometimes the government maps are distributed to schools without charge. Most of the tourist maps are also free.

INTERNATIONAL GEOGRAPHICAL UNION COMMISSION ON "THE TEACHING OF GEOGRAPHY"

The International Geographical Union Congress meeting in Washington, D.C., in August, 1952, set up a six member commission to study the problem of geography teaching in schools. The Commission is to act until the next congress and will receive assistance from six consultants (Dr. E. W. H. Briault, England; Mr. R. Ficheux, France; Mr. J. Reumert, Denmark; Dr. A. Sømme, Norway; Dr C. Kohn, United States of America; Dr. Brouillette, Canada). The Commission members are Dean N. V. Scarfe (Chairman), Canada; Dr. T. F. Barton (Secretary), United States of America; Dr. C. A. Alagoz, Turkey; Dr. I. R. Khan, Lebanon; Dr. G. M. Hickman, England; Dr. C. D. Carvalho, Brazil.

A plan of work has been established and some of the objectives clarified. A final report setting out the case for geography in school and suggesting methods of teaching will be written after the collection of information from as many sources as possible.

To begin with members are being asked to comment on the following statements and points of view. It occurred to them that readers of the JOURNAL OF GEOGRAPHY might also be kind enough to comment thereon and so help the Commission with its work. Dean N. V. Scarfe, Faculty of Education, University of Manitoba, Winnipeg, Canada, would be glad to receive your comments.

OBJECTIVES OF THE COMMISSION

1. To investigate and *evaluate* the present status of and recent trends in the teaching of geography at the elementary and secondary levels. In the light of the findings to recommend and demonstrate what the geography program of these levels should be and

how it may be best implemented in the curriculum and in the classroom. One of the primary functions would be to define the relation of geography to the courses in social studies (social science) and general science (earth science).

A study of this type is especially appropriate now for a variety of reasons, some of which are:

a. To meet the recent upsurge in interest in and public demand for better geography teaching.
b. To reenforce the teachers of geography whose programs are now good.
c. To offer guidance to thousands of teachers who rightfully look to us for help and who may have had little or no training.
d. To provide an authoritative international statement for the guidance of administrators of education.

2. To present the case for geography as a major integrating science in the curriculum.

School work, as presently conceived in many countries, seems to over-emphasise sociological factors and underemphasise the fundamental limitations of the physical environment on human life. Man tends to be separated from nature; the humanities separated from the natural sciences. Geography is disintegrated into human studies and earth science. Some aspects of geography are made the humble handmaiden to history, others a minor part of general science. Geographers have never disagreed with the idea of correlating various areas of knowledge. That is the major function of their subject. Scientists in their studies naturally tend to neglect the effect of the human element on nature while sociologists quite properly neglect the effect of nature on human life and activity. The function of geography is to make good this neglect.

Geography is a different discipline from either social science or general science. It has a distinct and different point of view from either. Its methods and study, however, are not noticeably at variance with the best in either for it is essentially scientific and scholarly in its approach.

Geographers do not think of any particular fact or item of knowledge as being the special preserve of any one subject. Facts are quite neutral. It is only when they are expertly handled from a particular point of view that they become part of a special subject. Geography is distinct from history or biology not so much because it deals with a different set of facts, but because it views

these facts from a distinctive point of view and for a special purpose.

Geographers do not agree with the advocates of social studies that the whole answer to the problems of the world lies in a thoro knowledge of human psychology, or a free study of traditions, customs, mores, religions, or a complete study of the past, or even an extended survey of economic conditions, or any combination of all of these. Likewise they do not believe that technological progress or scientific advancement or nature study offer any complete salvation either.

No doubt science and sociology offer partial solutions but there is an additional, fundamental and necessary key to the understanding of human existence. This is the study of man's wiser use of land and the development of greater good will towards others. Good will is born of a better understanding of the need men have for adjusting their lives to the conditions of the place in which they live or changing the environment as much as possible to meet their needs. In other words the study of man-land relationships in the wide sense in which modern geographers view them offers a fine basis for integrating the whole school curriculum and thus prevents undue concentration on those relationships which overemphasise the irrational behaviour of men as revealed by sociological study, or those which overemphasise the importance of scientific causality.

Geography today suffers because it has been badly taught, or more often because an old fashioned form of geography has been taught in school. Geographers have rarely entered the field of specialised education or become educational administrators. Those who influence public education have therefore either unwittingly neglected geography thru ignorance or deliberately depressed it thru prejudice. Unaware, therefore, of the function and purpose of modern geography, they have sought some other way of integrating a curriculum. Most of them have been historians or scientists and therefore social studies or general science have evolved by disintegrating geography. They have tended to extend the "empire" of the historian to include some facts which might be called geographical, and some maps, but they have rarely departed from the historian's point of view. They have taught about mountains and rivers and climate but always to illuminate history. This is very different from the way in which a geographer views the same facts because his purpose, point of view, and his conclu-

sions are different. In the same way biologists have extended their "empire" to include physical and economic geography but they do not view the problem from the angle of man-land relationship any more than the historian does. Geography is not to be confused with history or biology simply because it deals with a similar set of facts. All subjects have many facts in common. Unless a geographer teaches social studies or general science there is rarely any true geography taught altho quite often facts about the earth and maps are used. Thus many people falsely suppose that geography and history or geography and science are being integrated or fused. There are three, not two, main integrating curriculum areas: 1. Social Studies, 2. General Science and 3. Geography. Geography, the means by which 1 and 2 may be integrated, has been sadly neglected.

Geography has been given little publicity. No one has been able to refer to any authoritatively agreed statement about geography. The time has arrived for geographers to put their philosophy or point of view more clearly and forcibly before the ordinary public, and particularly educators. No better body than the International Geographical Union could do that.

EDITORIAL NOTES AND NEWS

Will the readers of the JOURNAL OF GEOGRAPHY be so kind and helpful as to call the attention of their classes to the splendid advertising concerning summer sessions in the February, March and April, 1953 issues of the JOURNAL OF GEOGRAPHY? In the February issue McGill University announced their Summer School in Geography. The March issue contains announcements by the University of Wisconsin, Clark University, Oregon State College, McGill University, University of Southern California and Washington University. The Pennsylvania State College announcement will appear in the April issue.

The Southeastern Pennsylvania Geography Club has the following 1952-1953 officers: President, John A. Benhaur, Department of Geography, Westchester High School; Vice President, J. L. Kern, Westchester Junior High School; Secretary, Leone Strumpf, Smedley Junior High School; and Treasurer, Mrs. Viola Hawk, Parkesburg, Pennsylvania.

Myco Services, 403 High St., Morgantown, West Virginia has 2 x 2 colored slides for sale—many of the slides are aerial. You may get a list of available slides by writing.

The Geography Section of the Maryland State Teachers Association holds a fall and spring meeting. At their fall meeting in 1952 they elected the following officers: Chairman, Edward Biller; Vice-chairman, Gladys Kause; Secretary, James Rouleau; and Treasurer, John B. Calder.

NATIONAL COUNCIL AT WORK

The very nature of Geography calls for a depth and breadth of vision, and an ever-widening interest in human affairs. The National Council of Geography Teachers is evidencing the above in two very significant ways. One is by meeting jointly at frequent intervals with other associations. Such a meeting will be held with the National Council for the Social Studies at Buffalo, November 26-28 this year. Mark this date as a must on your calendar.

Individual geographers may assist in the preparation and add materially to the success of this and similar meetings by entering into the work and congeniality of other related societies. Many of our Council members are doing this. For example, some attend regularly the National Education Association meetings, some are active in The American Academy of Political and Social Science, some do important work in the regional meetings of such organizations as Teacher Education and Professional Standards, local Biology, Conservation and Resource Use groups. Many teachers of Geography encourage their students to recognize the significance not only of UNESCO but also of the scholarly societies of Phi Beta Kappa and Kappa Delta Phi. The many-sidedness of geography demands these wide interests.

In like manner the National Council of Geography Teachers recognizes the necessity of a wide distribution of meeting places for its annual assemblies. The San Francisco area is being viewed as the site for the 1954 meeting. It will be held in the summer. Dr. Otis Freeman, Vice-President of the National Council of Geography Teachers, and President of Eastern Washington State College, Cheney, Washington is in charge of arrangements.

The National Council makes a plea therefore that each individual geographer continue to widen his interests in local and national groups related to geography, and to increase his geography field work by attending the National meetings.

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It is a pleasure to announce that one of the Project Committees, namely, the Committee on Still Pictures, has completed its work, and the Publications Committee has informed the Secretary, Miss Ina C. Robertson, that the report is ready for distribution as a bonus publication.

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A request has come from the Nominating Committee Chairman, Dr. Kenneth J. Bertrand, Department of Geography, The Catholic University of America, Washington, D.C., for names of persons who deserve consideration for office holding in the National Council. If you have such people in mind, write Dr. Bertrand.

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Dr. George Cressey, Department of Geography, Syracuse University, Syracuse, N.Y., also should receive resolutions desirable for consideration by the Council.

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Finally, a matter which should be of concern to geography teachers comes to our attention when on page 105 of the January, 1953 *Geographical Review* we read comments on the recent Seventeenth International Geographical Congress held in Washington the past summer. Of 209 papers read, only 9 dealt with the Teaching of Geography; 4.3 per cent. The last sentence on page 105 reads—"In terms of relative quantity of papers read, much more attention was paid to economic geography at the Congress of 1952 than was given to 'Commercial and Industrial Geography' in 1904, and somewhat more to cartography, whereas *the teaching of geography lost ground.**

The teaching of geography should not lose ground. Several ways to increase its scope and importance are to affiliate with geography and related Societies, to attend the local and national meetings, to know your State Coordinator, to write up your findings and ideas, and finally, to reflect continually on the significance of geography for today and tomorrow.

HENRY J. WARMAN

* Italics—mine.

GEOGRAPHICAL PUBLICATIONS

Gertrude Wallace Wall. **Gifts From the Forest.** Charles Scribner's Sons, New York, 1952. 96 pages, 49 photographs. Map of forest regions in the United States. **$2.50.**

Elementary teachers would delight in having this fascinating account of lumbering operations in California for their classroom bookshelf. The author, assisted by technically-trained foresters, illustrates each phase of her story with well-chosen photographs taken by her son-in-law, John Towsley, a professional photographer. Explanations, with large-type captions, accompany the photographs and weave into the whole a valuable technical lumbering vocabulary. The locale is west coast, but many of the lumbering processes mentioned in this story are similar or applicable to the same industry in other regions. The author's comments on conservation and reforestation would certainly be true for all forested regions.

The photographs of large trees and rough topography, showing gigantic machinery necessary for road building and the moving of logs, would be of great appeal to any wondering mind. The brevity and yet completeness of each story phase, from the marking and cutting of trees to the finishing and using of lumber, makes one aware that the author has had a background of teaching experience in helping satisfy curious young minds.

This book would best be used as a supplementary reader for children in intermediate grades, yet older pupils, even adults, can well profit by examination of the contents.

EDNA M. FLEMING

Public Schools
Waterloo, Iowa

Clarion Atlas, North American Edition. "A Collins-Longmans planned Atlas, planned, compiled, drawn and produced for school use under the direction of a joint advisory board." Longmans, Green & Co., Toronto & New York, 1950. 64 pages (about $7\frac{1}{2} \times 8\frac{3}{4}$ inches) and maps. **$1.25.**

Planned specifically for Canadian schools, the *Clarion Atlas: North American Edition* has world coverage and emphasizes areas of special interest to Canadians, particularly Canada, the United States and Britain. Certain features recommend it for supplementary use in United States elementary schools. It consists of an introductory section on "Using an Atlas," 47 pages of colored maps and an 8-page simplified map index. Five double-page maps of the world show, respectively, elevation, countries, population, annual rainfall and summer temperatures. Maps of continents and parts of continents occupy 37 pages, nearly half of which are devoted to the Americas.

Some of the special features of the *Clarion Atlas* follow. 1. Comprehension of scale is aided by insets on many maps showing to scale, for comparison, the distance between two major Canadian cities. 2. The equator is always shown as a solid red line, the tropics as solid blue lines and the polar circles as broken blue lines; in addition, the equator is always named and the tropics marked "Northern Tropic" or "Southern Tropic." 3. Color bands at map margins mark the zone between the tropics in red and the zones inside the polar circles in blue. 4. The world map of summer temperatures (which also shows the belt with all months warm enough for grass to grow) indicates the average for the warmest month, irrespective of when the warmest season occurs; but continental maps give January and July temperatures and also have "Sun Overhead" written along the appropriate tropic. 5. The map index gives locations in latitude and longitude correct to the nearest quarter degree.

ALICE FOSTER

University of Chicago

W. G. V. Balchin and A. W. Richards. **Practical and Experimental Geography.** John Wiley and Sons, Inc., New York, 1952. 136 pages, 74 illustrations. $2.75.

Because geography is a practical subject, it follows that the best way to teach it is in a practical way. This means a certain amount of field work. However, if the advantages of field work are not available, as is frequently the case, the next best learning device is laboratory work in association with classroom procedure. Unfortunately such work has been greatly neglected by teachers at all levels. This can be attributed in part to the failure of some to appreciate the practical aspects of their subject. But more important probably is the fact that most teachers have had no laboratory training themselves and therefore lack specific ideas on which to base exercises for their students. Here is where this book may prove very useful. Its main purpose is to provide ideas. The authors have gathered together scores of practical exercises (or more correctly suggestions of exercises) that geography teachers at all levels will find thought-provoking and will wish to have at hand if they are interested in incorporating more practical work in their teaching. The suggestions are divided into five sections: 1. Earth Movements (including the making of model tellurions and time models); 2. Landforms (including a detailed description of an earth sculpture tank); 3. Atmosphere and Oceans (including the construction of meteorological instruments); 4. Survey and Map Projections (including simple surveying techniques) and 5. Distribution Maps and Cartograms. Most of the exercises suggested are meant for students at the high school and college level, but a few may be adapted for use at the primary school level. However, this is not a course book, and all teachers will find in it material that is valuable and useful and in some cases may well prove indispensable.

R. LOUIS GENTILCORE

Indiana University

Thomas Hollyman. **The Oilmen: A Photographic Story.** Rinehart and Co., New York, 1952. $1.50.

Mr. Hollyman, now Consulting Photography Editor of Holiday Magazine, shows himself to be one of the top cameramen of the country thru the dramatic photographs which interpret the life of oilmen at every phase of their work. From geologist to gas-attendant, workers in the oil industry are photographed with the machines they handle. Legends such as these add interest: "He compounds synthetic rubber in a little test mill" and "Some oilmen fatten land on petrochemicals." Interesting by-paths in the drama of oil are photographed; "A chip off an old rock—spotted on an aerial photograph—is a red hot clue in a geologist's whodunit" and "Part sleuth and part diplomat, this oilman gets lands to drill on." No page seems too crowded due to the variety of photograph sizes. From one picture with no margins on a double page to six on a single page, the design thruout this ten-inch square book is excellent. Varied, too, is the size and type of print. Large print headlines the text and a fuller explanation in small print is near each photograph. The print of a page of textual material is pleasantly large and clear. The vivid and poetic text captures the imagination; "At home with seagulls or sagebrush . . . oilmen live with the job and live well." Phrases such as; "Oil once captured never rests" and "gaugers measure tides of oil and see only cupfuls," introduce the transportation system and intrigue one to read on. Again "starting rough with ditchers and bulldozers, they end gently, coating and wrapping the pipe." "Oilmen farmer grows weak crops and strong bugs on purpose . . . stands with one foot in science and one in industry passing knowledge back and forth between the two."

Teachers who are looking for new and interesting material will find this a very acceptable addition to their libraries. Particularly good for Junior High School age is

this combination of excellent photography and vivid text in an attractively arranged book, but only adults who have tried taking their own pictures can fully appreciate the excellent photography.

Arthur Robinson. **The Look of Maps.** University of Wisconsin Press, Madison, 1952. 105 pages. **$2.75.**

Before a systematic attack is made on a problem, it is wise that the problem be stated clearly and the ramifications of this problem be summarized. The new book by Dr. Robinson is just that—a statement of some problems of the visual aspect of maps and a suggestion as to wherein the solution to the problems may lie. The book is both critical and constructive without attempting to give a final answer to the problems effecting the look of maps.

Some of the important elements of map presentation that are investigated in those essays are lettering, map structure, map design and the use of color. Investigations on these various topics have been carried on to a greater or lesser degree by psychologists, printers and advertising men, but as yet cartographers have not seen fit to utilize their findings or to carry on investigations of their own. The aim of this book is to "excite the curiosity of others to investigate" these problems basic to the presentation of maps.

An objective analysis of cartographic design and presentation will reveal that too often cartography "leans, or rather reclines on its conventions." Another aspect of the problem that has stifled investigation is the idea that "cartographic technique and its evaluation is based in part on some subjective artistic or aesthetic sense." A greater awareness of the need to "study and analyze the characteristics of perception as they apply to visual presentation" should lead us to more effective cartography.

HERBERT GAEDE

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Department of Citizenship and Immigration, Ottawa, Canada. **Canada—Descriptive Atlas.** Paper. 106 pages. 1951. **$1.00.**

The Canadian Descriptive Atlas is a much needed addition to the general field of geographical knowledge on Canada. The atlas is a gazetteer-type containing brief geographical sketches on Canada and each of the provinces as well as containing much other useful material. A brief locational and physiographical sketch introduces each section followed by short descriptions of climate, agriculture, mining, fishing, manufacturing, waterpower, forests, etc. A short historical treatment of each province concludes the textual material and makes the atlas a useful tool to historians as well as geographers.

The atlas contains a general map of Canada and maps of each of the provinces and territories. In general, the maps indicate transportation, county boundaries, lakes, rivers, cities and resources. For their purpose, the maps may be considered adequate, tho in some instances they prove difficult to read. The atlas is well illustrated with 140 pictures which are used to excellent advantage in depicting various features of provincial economy, buildings, landscapes, etc.

The Canadian Descriptive Atlas will prove to be a valuable source book for teachers of elementary and secondary geography and history. The atlas tho containing 106 pages lacks pagination which may make it difficult to handle for general classroom use. This limitation is a minor one, however, and the atlas can be viewed as a valuable contribution to knowledge on an area which has had to date too little written concerning it.

ARTHUR W. WATTERSON

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BOOKS AND PAMPHLETS RECEIVED

Henry Chapin and F. G. Walton Smith. **The Ocean River: The Story of the Gulf Stream.** Charles Scribner's Sons, New York, 1952. viii and 325 pages with bibliography and index. $3.50.

North Atlantic Treaty Organization, Its Development and Significance. Department of State Publication 4630, Washington, D. C., 1952. 50 pages with appendix I and II. $0.20.

Report on Germany. September 21, 1949-July 31, 1952. Office of the U. S. High Commissioner for Germany. Greven & Bechtold, Cologne. 299 pages with illustrations and maps.

Packard, Overton and Wood. **Geography of the World,** Revised Edition. The Macmillan Company, New York, 1953. viii and 499 pages plus index.

John Warrington, Revised by. **Atlas of Ancient and Classical Geography.** E. P. Dutton and Co., Inc., New York, 1952. xii and 256 pages with index and 80 pages of maps and plans. $4.50.

Bengston and Rigdon. **Economic Geography Manual.** Prentice-Hall, Inc., New York, 1952. vi and 218 pages. $3.25.

G. A. Hills. **The Classification and Evaluation of Site for Forestry.** Ontario Department of Lands and Forests, Canada, 1952. (Research Report No. 24) vi and 41 pages with charts.

The Mutual Security Program . . . for a strong and free world. U. S. Government Printing Office, Washington, D.C., 1952. v and 48 pages. $0.30.

Herman and Nina Schneider. **Follow the Sunset.** Doubleday and Co., Inc., New York, 1952. 43 pages with illustrations. $2.75.

J. E. Spencer. **Land and People in the Philippines: Geographic Problems in Rural Economy.** University of California Press, Berkeley, 1952. xviii and 282 pages with bibliography and index. $4.50.

Monkhouse and Wilkinson. **Maps and Diagrams.** E. P. Dutton and Co., New York, 1952. xvi and 330 pages with index. 199 maps and diagrams. $6.00.

Marketing Maps of the United States, an Annotated Bibliography. Second Edition. Library of Congress, Washington, 1952. vii and 100 pages with index. $0.70.

Pipaluk Freuchen. **Eskimo Boy.** Lothrop, Lee and Shepard Co., Inc., New York, 1951. 96 pages with illustrations. $2.00.

Readings in the Geography of North America: A Selection of Articles from the Geographical Review. American Geographical Society, New York, 1952. 466 pages with illustrations, maps and diagrams. $3.00.

William O. Steele. **The Buffalo Knife.** Harcourt, Brace and Company, New York, 1952. 177 pages. $2.25.

Norman J. G. Pounds. **The Ruhr.** Indiana University Press, Bloomington, 1952. 283 pages with 36 maps and diagrams. $4.00.

Taiwan (Formosa) **A Geographical Appreciation.** Foreign Geography Information Series No 5. Department of Mines and Technical Surveys, Canada, 1952. 59 pages with maps. $0.50.

Bibliography of Periodical Literature on Canadian Geography for the Period 1940-1950. Bibliographical Series No. 9. Department of Mines and Technical Surveys, Canada, 1952. 128 pages.

The Rural Land Classification Program of Puerto Rico. Northwestern University, Evanston, Illinois, 1952. 261 pages with photos and maps. $2.75.

The Ports of San Francisco and Redwood City, California, Port Series No. 30. United States Government Printing Office, Washington, 1952. xiii and 217 pages with maps and diagrams.

Harry Tegnaeus. **Blood-Brothers.** Philosophical Library, New York, 1952. 181 pages with bibliography and index. $12.00.